INFORMATION SHEET FOR SPRING 2010

INSTRUCTOR

Prof. Paul Barbone

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TEACHING ASSISTANT

Krishna Nanduri

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TEXTBOOK AND REFERENCES

Required: T.H.G. Megson, An Introduction to Aircraft Structural Analysis, Butterworth-Heinemann, Elsevier, Burlington, MA, 2010.

References:
T.H.G. Megson, Aircraft Structures for Engineering Students, 2nd Edition, Halsted Press, 1990.
E.F. Bruhn, Analysis and Design of Flight Vehicle Structures, Jacobs Publishing, 1973.

WEBSITES

The website for the course is on Blackboard. Material for all students will be posted there.

Link: http://blackboard.bu.edu/bin/common/course.pl?course_id=_26918_1

GRADING

Semester project	20%
Weekly homework, extended assignments, and quizzes	40%
Midterm exam	20%
Final exam	20%

SYLLABUS

Week Beginning	Topic	Reading
Week 0.5	Structural components of an aircraft	Ch 11
Week 1.5	Vectors, matrices, and matrix algebra	Lecture notes
Week 2	Energy Methods	Ch 5
Week 3	Matrix Structural Analysis	Ch 6
Week 4	Stress	Secs. 1.1-1.8
Week 5	Strain	Secs. 1.9-1.15
Week 6	Materials and Fatigue	Ch 10, 14
Midterm Exam	Week of 7 March	Ch 1, 5, 6, 10, 14.
Week 7	Bending of thin walled beams	Ch 15
Spring Break	Week of 14 March	Ch 33
Week 8	Shear stress and flow in thin walled beams	Ch 16
Week 9	Torsion of thin walled beams	Ch 17
Week 10	Combined loading in beams	Ch 18
Week 11	Bending of thin plates	Ch 7
Week 12	Elastic Stability	Ch 8, 9
Week 13	Wing spars, box beams, wings	Ch 19, 20, 22.
Final Exam	11 May, 9-11am	Cumulative